

(12) UK Patent Application (19) GB (11) 2 146 522 A

(43) Application published 24 Apr 1985

(21) Application No 8423009

(22) Date of filing 12 Sep 1984

(30) Priority data

(31) 8324744

(32) 15 Sep 1983

(33) GB

 (71) Applicant
 George Johnson Collins,
 36 Garesfield Gardens, Burnopfield,
 Newcastle upon Tyne NE16 6LD

 (72) Inventor
 George Johnson Collins

 (74) Agent and/or Address for Service
 Reid Sharpe,
 Floor B, Milburn House, Dean Street,
 Newcastle upon Tyne NE1 1LE

 (51) INT CL⁴
 A47K 10/48

 (52) Domestic classification
 A4V 29F

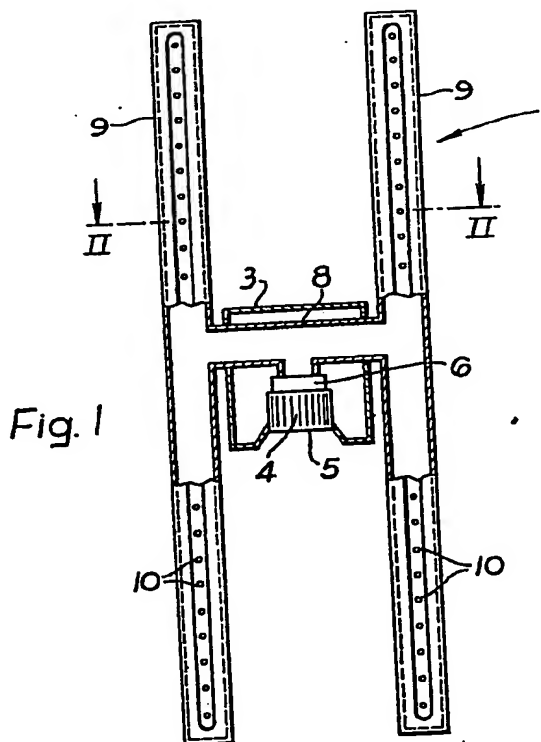
 (56) Documents cited
 GB 1564028
 GB 1514759
 GB 1488513
 GB 1273028
 GB 1263725

 GB 1178672
 GB 1027506
 GB 0968358
 GB 0573535

 (58) Field of search
 A4V
 F4V

(54) Body drier

(57) A drier unit suitable for drying the human body, for example after a bath or shower, comprises at least one continuous or discontinuous length of ducting 9, able to be supported with its length in a generally vertical position and having a plurality of vents 10 for emission of air, and means 4 for supplying a stream of air to the ducting. The length of ducting may be 1.22-1.83 metres and may be variable.

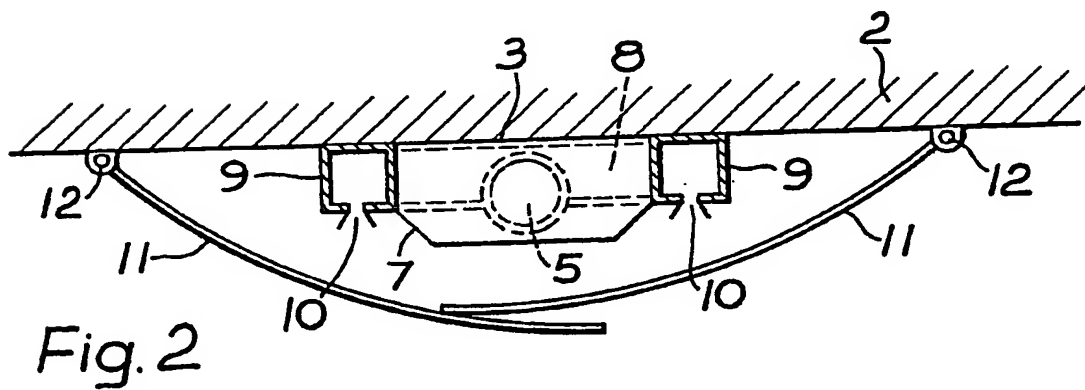
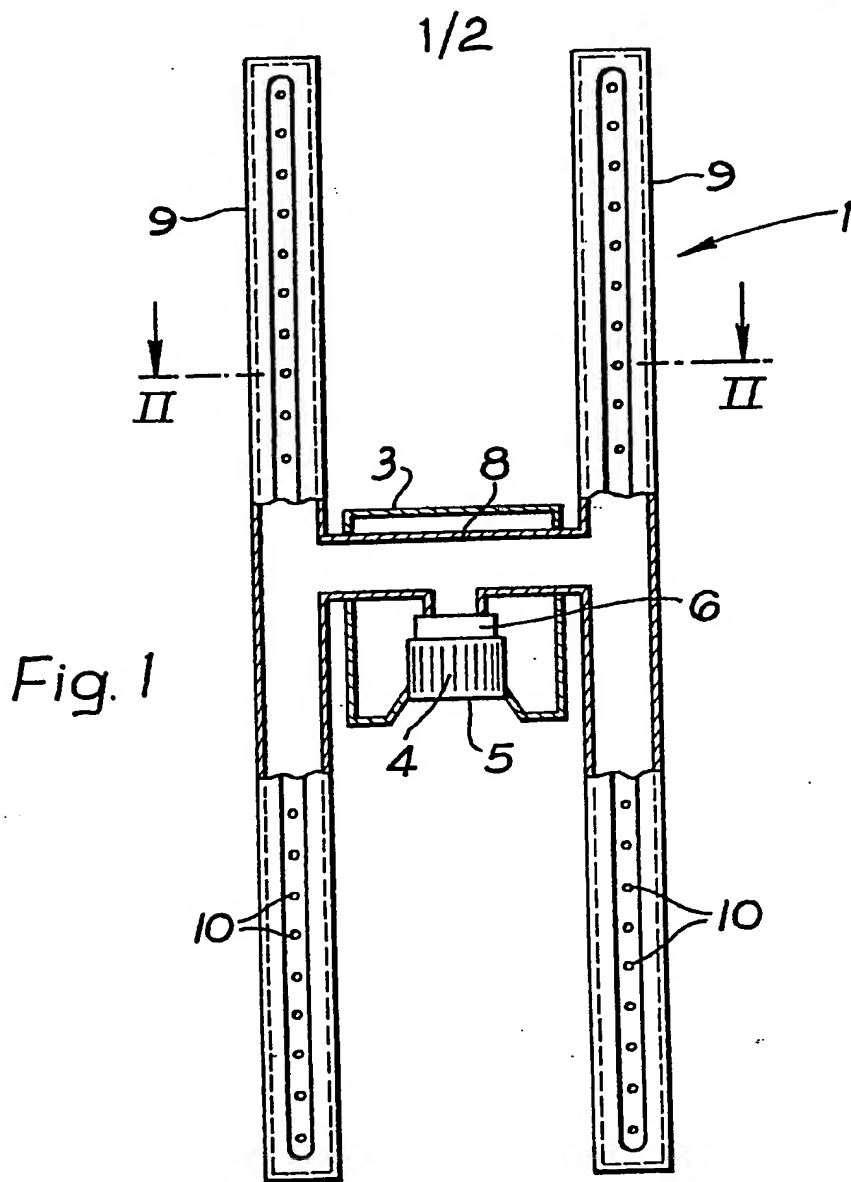


BEST AVAILABLE COPY

The drawing(s) originally filed was (were) informal and the print here reproduced is taken from a later filed formal copy.

GB 2 146 522 A

2146522



2146522

2/2

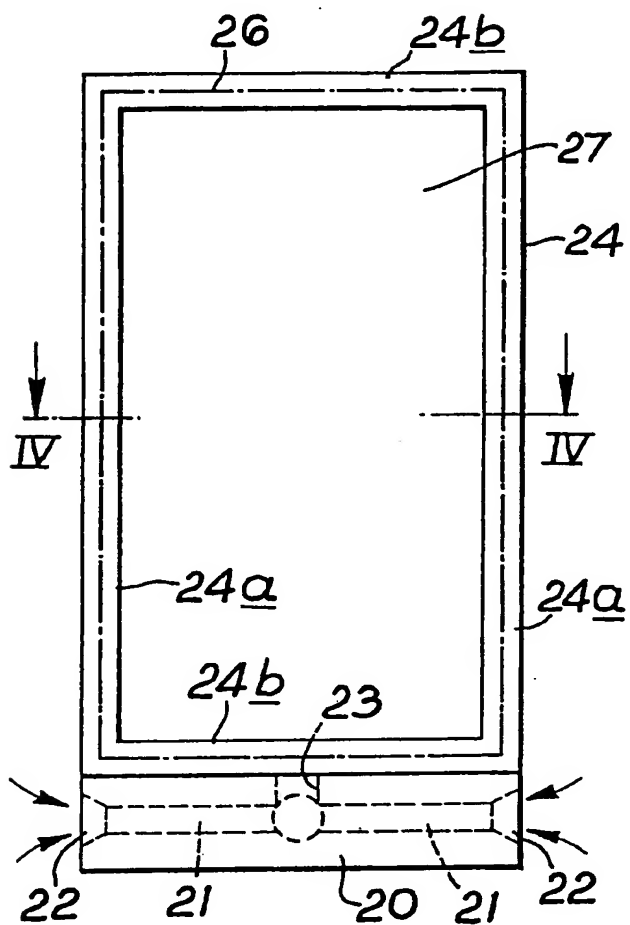


Fig. 3

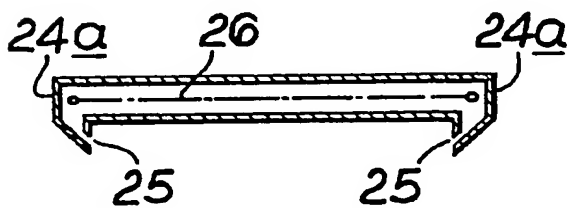


Fig. 4

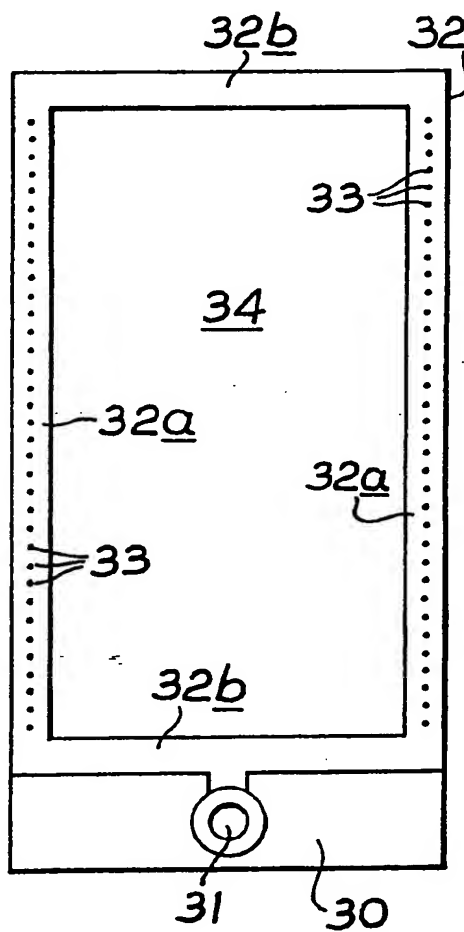


Fig. 5

GB 2 146 522 A

1

SPECIFICATION

Drier unit

5 The present invention is a drier unit, devised specifically for the purpose of drying the human body.

Showering and bathing in one form or another appears to have become an ever-more-popular activity in recent years and the provision of facilities for this purpose has increased. A large proportion of hotel bedrooms now have bathrooms associated with them; the many public sports complexes all provide showering or bathing facilities. Domestic bathrooms, as well as being more numerous, have become increasingly attractive features of the house. In spite of this, conventional towels are used for subsequent drying.

The provision of a supply of fresh towels may be a significant feature of the costs of a showers or baths service, but a fresh towel for each user is important for reasons of hygiene. It would therefore be attractive if an alternative means of drying after bathing were available. It is a prime object of the present invention to provide such means.

25 The drier unit according to my invention comprises at least one continuous or discontinuous length of ducting, capable of being supported with its length in a generally vertical position and having a plurality of vents for emission of air therefrom, and means for supplying a stream of air to the interior of the ducting.

As indicated the at least one length of ducting may be continuous or discontinuous; thus it may take the form of a plurality of aligned shorter pieces of ducting or a single length. Preferably the unit comprises at least two such continuous lengths disposed generally parallel to each other.

In one preferred form of my invention, the ducting comprises a single continuous length having two generally parallel sections joined together at one or both ends thereof. The ducting may be mounted with these two sections in a generally vertical orientation. Thus these two sections may be the two vertical sides of a three- or four-sided rectangular unit, the air vents then being located preferably in those vertical sides only.

Preferably the overall length of the drier unit is of the same order as the height of the persons who are intended or likely users of the unit. Thus, for adult users, the unit may be at least 4 feet (1.22 Metres) long, typically 5 feet (1.52 Metres) or 6 feet (1.83 Metres) long.

The ducting must be capable of being supported in a generally vertical position. Thus the unit may be provided with securing means to allow it to be attached to a wall. For example, the ducting itself or a mounting bracket may have one or more self-adhesive surfaces or suction cups permitting fixing to a tiled or other smooth surface, or sockets may be provided to allow fixing with screws or other mechanical fixing means. Alternatively, the unit may be free-standing or may be provided with a stand.

The vertical position of the unit may be adjustable. Thus the ducting may be adjustably located in a mounting bracket or the unit may be adjustably

attached to a stand, to enable the unit to be raised or lowered.

If desired, provision may also be made for varying the overall length of the unit. For example, telescopic ducting may be adopted or the ducting may extend to a variable extent from a housing.

As stated, the ducting has a plurality of vents for the emission of air. The vents may be circular or elongated and may expel air perpendicularly from the face of the ducting or at an angle thereto. In the case of a wall-mounted unit, the air may be expelled perpendicularly away from the wall or at an angle thereto. By appropriate orientation of the vents, the aggregate air emission may be spread over an area which is wider or longer than the dimensions of the ducting. However, whatever the shape and orientation of the vents, it is preferred that the vents themselves be disposed substantially throughout the vertical length of the ducting.

In one preferred form of my invention, the vents are formed in a separate member located within the ducting, and adjustable so as to modify the direction in which the vents are collectively oriented and thereby re-direct the air emission overall.

The air supply to the ducting may be fed via a flexible or fixed conduit from a separate source. Alternatively and preferably, air is supplied to the ducting direct from the ambient atmosphere by means of a fan incorporated in the unit.

For the comfort of the user, the air is preferably heated. The air may be emitted at a predetermined fixed temperature, at which if desired it may be maintained by means of a suitable thermostat. Alternatively, a limited range of temperature adjustment may be afforded, for example by means of a variable heater incorporating a rheostat. Clearly it is important that the heater be incapable of heating the air to temperature uncomfortable or unsafe for the human body.

A particularly preferred form of my invention comprises, in a single unit, one or more lengths of ducting, a fan for drawing air from the surroundings, a heater for the air, the output side of said heater communicating with the interior of said ducting, a plurality of vents for emission of air from the ducting, and means for supporting the unit. In an alternative arrangement, the air may be heated by one or more elements located within the ducting.

Improved efficiency of the drier unit according to my invention may be achieved by mounting the unit within a cubicle. Since the nature of the unit readily lends itself to being designed in a form which is shallow and can therefore be fitted close against a wall surface, the cubicle itself may be relatively compact. In one form, such a cubicle may consist simply of a pair of screens, foldable against a wall so as to cover the unit when not in use and mounted to swing away from the wall and both shield the user and contain the air when the unit is being used.

A particular advantage of the compact design of which my invention is capable is that banks of drier units may be provided as at a public leisure or sports centre for a number of users, without requiring large amounts of space. However, the same compact unit is equally suitable for installation in a domestic

2 GB 2 146 522 A

2

bathroom or shower cubicle.

My invention will now be further described with reference to the accompanying drawings, in which:-

Figure 1 is a front elevation, partly in section, of one form of drier unit according to my invention, suitable for wall mounting;

Figure 2 is a cross-section on the line II-II of Figure 1, showing in addition a form of cubicle arrangement which is of value in some situations;

Figure 3 is a front elevation of a second form of drier unit according to my invention;

Figure 4 is a cross-section on the line IV-IV of Figure 3; and

Figure 5 is a front elevation of a third form of drier unit according to my invention.

Referring firstly to Figures 1 and 2 of the drawings, a drier unit designated generally by the numeral 1 is mounted upon a wall 2 by means of a mounting housing 3 which also incorporates the air supply to the unit. The housing 3 supports a motor 4 driving a centrifugal fan by means of which ambient air is drawn into the unit via an air intake 5. Located within the air stream from the fan is a heater 6 which raises the temperature of the incoming air to a selected predetermined level comfortably acceptable to the use. The housing 3 is finished off with a decorative cover 7.

Air from the heater 6 is distributed by a cross-conduit 8 to two parallel lengths of square-cross-section ducting 9, 9. Each length of ducting 9 is approximately 1.8 metres long and the whole unit is so mounted that the lower ends of the ducting 9 are about 4 inches (10 cm) from the ground. The ducting is of approximately 55 mm cross-section.

Throughout the length of each piece of ducting 9, a large number of vents 10 allows emission of the warm air from the interior of the ducting in a generally forwards direction, i.e. away from the wall. Thus a person standing in front of the unit 1 is exposed to a steady stream of warm drying air, by means of which his body is rapidly and comfortably dried.

In Figure 2, an optional cubicle arrangement is illustrated, consisting of two curved, hinged doors 11, 11 of translucent acrylic plastics material. The doors 11 neatly fold across to cover the unit 1 when the latter is not in use but by means of hinges 12, 12, swing outwards to form an open cubicle, which partly shields the user and also functions to restrain loss of warm air to the surroundings, when the drier unit is in use.

As a further optional feature, the housing 3 may incorporate a coin-operated timer, which allows the user to buy the use of the drier unit for a pre-set length of time, when the costs of operation are to be recovered or off-set in that way. Additionally, the housing 3 may be provided with an adapter to allow attachment of a hair-drier unit, supplied with the same hot air.

The drier unit illustrated in Figures 3 and 4 presents a generally rectangular front to the user. This unit may be free-standing (and therefore movable from one position or room to another) or wall-mounted.

The unit comprises a power unit 20 having air

channels 21 communicating with the ambient atmosphere via air inlets 22 and communicating also via a short vertical passage 23 with a continuous length of square cross-section ducting 24. The ducting 24 follows the rectangular outline of the drier unit and has generally vertical sections 24a and generally horizontal sections 24b. The sections 24a, as seen in Figure 4, are provided with vents 25 by means of which air is ejected in an inclined forward direction.

Following the path of the ducting 24 and disposed axially therein is an electric heating element 26, supplied with electric power from the power unit 20.

The unit of Figures 3 and 4 may be operated, if desired, by a foot switch or by pulling a wire or cord. In operation, air is sucked in through the inlets 22 by a blower located in the power unit 20 and then flows via the passage 23 into the ducting 24, where it is heated by the element 26 before being expelled towards the body of the user from the vents 25.

In the third embodiment of my invention shown in Figure 5, the power unit is again located at the foot of the drier but the heating of the air is effected within the power unit. Thus the power unit, indicated by the numeral 30, comprises a fan (not shown) which draws in ambient air via a centrally located air intake 31 and blows it over a heater before passing it to ducting 32. The ducting 32 comprises two generally vertical sections 32a and two generally horizontal sections 32b. The sections 32a each have a large number of air vents 33, oriented to expel the heated air in a direction which is angled forwards and inwards of the drier unit.

The central aperture (27 or 34) surrounded by the ducting 24 and 32 respectively of the driers illustrated in Figures 3 to 5 may be left open so as to expose the wall or tiles behind the unit or may be closed by a decorative panel or, say, a full-length mirror. Conventional bathroom attachments, for example a hair drier or bathroom scales, may be incorporated in the unit if desired.

In numerous trials, I have established that by means of my invention, the body may be dried in a matter of a few minutes completely satisfactorily and without the use of towels.

CLAIMS

1. A drier unit comprising at least one continuous or discontinuous length of ducting, capable of being supported with its length in a generally vertical position and having a plurality of vents for emission of air therefrom, and means for supplying a stream of air to the interior of the ducting.

2. A drier unit according to claim 1, comprising at least two generally parallel lengths of said ducting.

3. A drier unit according to claim 2, comprising a continuous length of ducting having two generally parallel sections joined together at one or both ends thereof.

4. A drier unit according to any of the preceding claims, wherein said length or lengths of ducting are from 1.22 to 1.83 metres long.

5. A drier unit according to any of the preceding claims, having means for attachment to a wall.

3

GB 2 146 522 A

3

6. A drier unit according to any of claims 1 to 4 which is free-standing.

7. A drier unit according to any of the preceding claims, wherein the overall length of the unit is

5 variable.

8. A drier unit according to any of the preceding claims, in which the vents are orientated to expel air perpendicularly from the plane of the unit or at an angle thereto.

10 9. A drier unit according to any of the preceding claims, having means for heating air therein.

10. A drier unit according to claim 9, wherein the heating means is associated with a fan to feed heated air to the ducting.

15 11. A drier unit according to claim 9, wherein the heating means is an electric element located within the ducting.

12. A drier unit substantially as hereinbefore described with reference to the accompanying drawings.

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☒ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☒ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.